

Visualizing and Predicting Heart Diseases with an Interactive Dashboard

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BP Variation With Respect To Age

Blood pressure variability is thought to be a physiological indicator of autonomic nervous system control, with short- and long-term fluctuations resulting from complex interactions between influences from behavior, the environment, neural centers or reflexes, as well as other potential contributing factors.

Current indexes of blood pressure variability raise methodological issues related to their poor reproducibility, their interdependence, and their association with the level of blood pressure. Besides methodological problems, the prognostic significance of blood pressure variability remains controversial. Some studies reported association of end-organ damage (Parati et al., 1987a; Tatasciore et al., 2007; Matsui et al., 2011), cardiovascular events (Kikuya et al., 2000; Rothwell et al., 2010a,b; Rothwell, 2010; Webb et al., 2010; Johansson et al., 2012; Shimbo et al., 2012), or mortality (Muntner et al., 2011) with blood pressure variability, whereas others failed to find any association or found variability to be inferior to the level of blood pressure (Pierdomenico et al., 2006; Hansen et al., 2010; Schutte et al., 2012). This review addressed to what extent blood pressure.

Increased BP variability causes target organ damage, e.g., endothelial dysfunction, vascular and cardiac hypertrophy, disease and cerebral . and different BP variabilities, both occurring in ASCOT, are obviously difficult to dissociate, even with complex statistical adjustments,

a lower BP variability may be an additional property of CCBs contributing to their established effectiveness in preventing CV outcomes. Analyses of individual data from trials comparing CCBs with placebo and other agents are desirable.

Central command continuously modulates the baroreflex- and chemoreflex mediated cardiovascular and autonomic functions. This modulation is important for BP variability during sleep and daytime activities. Several cortical and subcortical brain sites have direct neural projections to the autonomic centers located in the brainstem and modulate their functions.

The body's network of blood vessels, known as the vascular system, changes with age. Arteries get stiffer, causing blood pressure to go up. This can be true even for people who have heart-healthy habits and feel just fine. On average, systolic blood pressure (SBP) rises with age, while diastolic blood pressure (DBP) increases to age 50 and then declines. As elevated blood pressure is associated with cardiovascular disease and mortality, it also might be linked to frailty.

An age-related increase in blood pressure (BP) is viewed as a universal feature of human aging. Among Westerners over age 40 years, systolic BP (SBP) increases by ≈ 7 mmHg per decade. Epidemiological surveys show a progressive increase in SBP with age, reaching an average of ≈ 140 mmHg by the eighth decade.

